

WHAT IS CLAIMED IS:

1. An induction heating roller device comprising:
a heating roller having outer end portions, a central
5 portion, and opposite ends;

a plurality of induction coils arranged in the heating
roller so as to be separated in the axial direction, wherein
the heating roller is magnetically coupled with each
induction coil for heating by induction current, and the
10 plurality of induction coils include a pair of induction
coils with one induction coil of the pair arranged at one
end of the heating roller and the other induction coil of
the pair arranged at the opposite end of the heating roller,
each of induction coils of the pair having a first end
15 positioned nearer an end portion of the heating roller and a
second end positioned nearer a central portion of the
heating roller; and

a high-frequency power source for supplying high-
frequency power to the plurality of induction coils, the
20 high-frequency power source including a first output
terminal set at a stable potential and a second output
terminal set at a non-stable potential, with the first end
of each of the pair of induction coils connected to the
first output terminal, and the second end of each of the
25 pair of induction coils connected to the second output
terminal.

2. The induction heating roller device of claim 1,
wherein all of the plurality of induction coils are
30 connected to the first and second output terminals so as to
decrease the difference in potential between adjacent ends
of adjacent induction coils.

3. The induction heating roller device of claim 1, wherein the stable potential is a ground voltage and the non-stable potential is a high-frequency voltage.

5 4. A fixing device for use with a recording medium bearing a toner image, the fixing device comprising:

a pressure roller; and

an induction heating roller device including a heating roller arranged in pressure contact with the pressure roller, wherein the heating roller transports the recording medium bearing a toner image by holding the recording medium with the pressure roller and fixes the toner image on the recording medium, the induction heating roller device further including:

15 a plurality of induction coils arranged in the heating roller so as to be separated in the axial direction, wherein the heating roller is magnetically coupled with each induction coil for heating by induction current, and the plurality of induction coils include a pair of induction coils with one induction coil of the pair arranged at one end of the heating roller and the other induction coil of the pair arranged at the opposite end of the heating roller, each of induction coils of the pair having a first end positioned nearer an end portion of the heating roller and a second end positioned nearer a central portion of the heating roller; and

20 a high-frequency power source for supplying high-frequency power to the plurality of induction coils, the high-frequency power source including a first output terminal set at a stable potential and a second output terminal set at a non-stable potential, with the first end of each of the pair of induction coils

connected to the first output terminal, and the second end of each of the pair of induction coils connected to the second output terminal.

5 5. The fixing device of claim 4, wherein all of the plurality of induction coils are connected to the first and second output terminals so as to decrease the difference in potential between adjacent ends of adjacent induction coils.

10 6. The fixing device of claim 4, wherein the stable potential is a ground voltage and the non-stable potential is a high-frequency voltage.

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15 7. An image forming apparatus for use with a recording medium, the image forming apparatus comprising:
 an image forming unit for forming a toner image on the recording medium;
 a fixing device for transporting the recording medium bearing the toner image and fixing the toner image on the
20 recording medium, the fixing device including:
 a pressure roller; and
 an induction heating roller device including a heating roller arranged in pressure contact with the pressure roller, wherein the heating roller transports
25 the recording medium bearing a toner image by holding the recording medium with the pressure roller and fixes the toner image on the recording medium, the induction heating roller device further including:
 a plurality of induction coils arranged in
30 the heating roller so as to be separated in the axial direction, wherein the heating roller is magnetically coupled with each induction coil for heating by induction current, and the plurality

of induction coils include a pair of induction coils with one induction coil of the pair arranged at one end of the heating roller and the other induction coil of the pair arranged at the opposite end of the heating roller, each of induction coils of the pair having a first end positioned nearer an end portion of the heating roller and a second end positioned nearer a central portion of the heating roller; and

a high-frequency power source for supplying high-frequency power to the plurality of induction coils, the high-frequency power source including a first output terminal set at a stable potential and a second output terminal set at a non-stable potential, with the first end of each of the pair of induction coils connected to the first output terminal, and the second end of each of the pair of induction coils connected to the second output terminal.

8. The image forming apparatus of claim 7, wherein all of the plurality of induction coils are connected to the first and second output terminals so as to decrease the difference in potential between adjacent ends of adjacent induction coils.

9. The image forming apparatus of claim 7, wherein the stable potential is a ground voltage and the non-stable potential is a high-frequency voltage.

10. An induction heating roller device comprising:
a heating roller having outer end portions, a central portion, and opposite ends;

a plurality of induction coils arranged in the heating roller so as to be separated in the axial direction, wherein the heating roller is magnetically coupled with each induction coil for heating by induction current, and the
5 plurality of induction coils include a pair of induction coils with one induction coil of the pair arranged at one end of the heating roller and the other induction coil of the pair arranged at the opposite end of the heating roller, each of induction coils of the pair having a first end
10 positioned nearer an end portion of the heating roller and a second end positioned nearer a central portion of the heating roller; and

a high-frequency power source for supplying high-frequency power to the plurality of induction coils, the
15 high-frequency power source including a first output terminal set at a non-stable potential and a second output terminal set at a stable potential, with the first end of each of the pair of induction coils connected to the first output terminal; and the second end of each of the pair of
20 induction coils connected to the second output terminal.

11. The induction heating roller device of claim 10, wherein all of the plurality of induction coils are connected to the first and second output terminals so as to
25 decrease the difference in potential between adjacent ends of adjacent induction coils.

12. The induction heating roller device of claim 10, wherein the stable potential is a ground voltage and the
30 non-stable potential is a high-frequency voltage.

13. A fixing device for use with a recording medium bearing a toner image, the fixing device comprising:

a pressure roller; and

an induction heating roller device including a heating roller arranged in pressure contact with the pressure roller, wherein the heating roller transports the recording medium bearing a toner image by holding the recording medium with the pressure roller and fixes the toner image on the recording medium, the induction heating roller device further including:

a plurality of induction coils arranged in the heating roller so as to be separated in the axial direction, wherein the heating roller is magnetically coupled with each induction coil for heating by induction current, and the plurality of induction coils include a pair of induction coils with one induction coil of the pair arranged at one end of the heating roller and the other induction coil of the pair arranged at the opposite end of the heating roller, each of induction coils of the pair having a first end positioned nearer an end portion of the heating roller and a second end positioned nearer a central portion of the heating roller; and

a high-frequency power source for supplying high-frequency power to the plurality of induction coils, the high-frequency power source including a first output terminal set at a non-stable potential and a second output terminal set at a stable potential, with the first end of each of the pair of induction coils connected to the first output terminal, and the second end of each of the pair of induction coils connected to the second output terminal.

14. The fixing device of claim 13, wherein all of the plurality of induction coils are connected to the first and

second output terminals so as to decrease the difference in potential between adjacent ends of adjacent induction coils.

15. The fixing device of claim 13, wherein the stable
5 potential is a ground voltage and the non-stable potential is a high-frequency voltage.

16. An image forming apparatus for use with a
recording medium, the image forming apparatus comprising:

10 an image forming unit for forming a toner image on the recording medium;

a fixing device for transporting the recording medium bearing the toner image and fixing the toner image on the recording medium, the fixing device including:

15 a pressure roller; and

an induction heating roller device including a heating roller arranged in pressure contact with the pressure roller, wherein the heating roller transports the recording medium bearing a toner image by holding
20 the recording medium with the pressure roller and fixes the toner image on the recording medium, the induction heating roller device further including:

a plurality of induction coils arranged in the heating roller so as to be separated in the
25 axial direction, wherein the heating roller is magnetically coupled with each induction coil for heating by induction current, and the plurality of induction coils include a pair of induction coils with one induction coil of the pair
30 arranged at one end of the heating roller and the other induction coil of the pair arranged at the opposite end of the heating roller, each of induction coils of the pair having a first end

positioned nearer an end portion of the heating roller and a second end positioned nearer a central portion of the heating roller; and

5 a high-frequency power source for supplying high-frequency power to the plurality of induction coils, the high-frequency power source including a first output terminal set at a non-stable potential and a second output terminal set at a stable potential, with the first end of each
10 of the pair of induction coils connected to the first output terminal, and the second end of each of the pair of induction coils connected to the second output terminal.

15 17. The image forming apparatus of claim 16, wherein all of the plurality of induction coils are connected to the first and second output terminals so as to decrease the difference in potential between adjacent ends of adjacent induction coils.

20 18. The image forming apparatus of claim 16, wherein the stable potential is a ground voltage and the non-stable potential is a high-frequency voltage.